

Year 1 Progress Report for NASA Grant

"Submillimeter Imaging of Dust Around Main-Sequence Stars"

David Jewitt May 25 1995

Summary

This grant is to support submillimeter imaging of nearby dusty stars. The bulk of the observational work is to be done using the SCUBA submillimeter array bolometer on the James Clerk Maxwell Telescope on Mauna Kea.

Progress

- We published a paper describing a sensitive submillimeter survey for dust around pre-main sequence, post-T Tauri stars:

D. C. Jewitt (1994), "Submillimeter Constraints on Dust Near Lindroos' Post T-Tauri Stars", *Astronomical Journal*, **108**, 661-665.

This survey limits the timescale for the incorporation of circumstellar dust into macroscopic pre-planetary objects. It is thus an empirical limit on the timescale for the accumulation of planetesimals in the disks of pre-main sequence stars. We find that this timescale is short compared to 10 million years.

- We developed a computer program to simulate the appearance of likely circumstellar dust disks about nearby main-sequence stars in SCUBA data. This program will be a vital tool in our SCUBA bolometer array observations of these objects.

Future Work

- We eagerly await the arrival of SCUBA at JCMT in October of this year. A set of imaging observations with this instrument has been planned.

(NASA-CR-198620) SUBMILLIMETER
IMAGING OF DUST AROUND
MAIN-SEQUENCE STARS Progress Report
(Hawaii Univ.) 3 p

N95-71517

Unclass

Budget Summary

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(Date) From April 1, 1995 to March 31, 1996 YEAR 2

NASA USE ONLY

	A	B	C
1. Direct Labor (salaries, wages, and fringe benefits)	\$ 29,143		
2. Other Direct Costs:			
a. Subcontracts	\$ 0		
b. Consultants	\$ 0		
c. Equipment	\$ 0		
d. Supplies	\$ 630		
e. Travel	\$ 6,818		
f. Other	\$ 11,074		
3. Indirect Costs	\$ 5,346		
4. Other Applicable Costs	\$ 0		
5. Subtotal—Estimated Costs	\$ 53,011		
6. Less Proposed Cost Sharing (if any)	\$ 0		
7. Carryover Funds (if any)			
a. Anticipated amount _____			
b. Amount used to reduce budget	\$ 0		
8. Total Estimated Costs	\$ 53,011		XXXXXXXX
APPROVED BUDGET	XXXXXXXX	XXXXXXXX	

Instructions

1. Provide a separate budget summary sheet for each year of the proposed research.
2. Grantee estimated costs should be entered in Column A. Columns B and C are for NASA use only. Column C represents the approved grant budget.
3. Provide in attachments to the budget summary the detailed computations of estimates in each cost category, along with any narrative explanation required to fully explain proposed costs.

----- ADDITIONAL INSTRUCTIONS ON REVERSE -----

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BUDGET
 PROPOSED BUDGET FOR
 SUBMILLIMETER IMAGING OBSERVATIONS OF DUST
 AROUND MAIN-SEQUENCE STARS
 PI: DAVID C. JEWITT

BUDGET ATTACHMENT

YEAR 2 (April 1, 1995 to March 31, 1996)

SALARIES AND WAGES

Graduate Assistant

50.00% FTE	3 mos @	\$1,673 /mo	5,019	
	9 mos @	1,757 /mo	15,813	
Summer Overload	2 mos		6,909	

Total Graduate Assistant

27,741

Total Salaries and Wages

27,741

FRINGE BENEFITS

Graduate Assistant

50.00% FTE	6.07% of Regular Salaries	1,265	
Overload	1.99% of Overload	137	

Total Graduate Assistant

1,402

Total Fringe Benefits

1,402

TRAVEL-DOMESTIC

Trips to Mauna Kea (Observe at JCMT, Mauna Kea)

Airfare		95	
Hale Pohaku Accommodations	6 days @ \$74 /day	444	
Car Rental	6 days @ \$34 /day	204	
Other Ground Transportation		50	

2 people	x	3 trips	=	6 trips	x	793	4,758
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Trip to AAS Meeting (Out-of-State)

Airfare		1,050	
Per Diem	6 days @ \$142 /day	852	
Ground Transportation		158	

1 person	x	1 trip	=	2,060	2,060
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Total Travel-Domestic

6,818

OTHER DIRECT COSTS

Materials and Supplies

630

Publications

Page Charges	20 pgs @ \$105 /pg	2,100	
Reports, reprints and illustrations		945	

Total Publications

3,045